III.B.2.N.c. INTERMITTENTLY FLOODED COLD-DECIDUOUS SHRUBLAND

III.B.2.N.c.7. RHUS TRILOBATA INTERMITTENTLY FLOODED SHRUBLAND ALLIANCE

Ill-scented Sumac Intermittently Flooded Shrubland Alliance

Alliance Identifier: A.938
Rhus trilobata - Salix exigua Shrubland
Ill-scented Sumac - Coyote Willow Shrubland

ELEMENT CONCEPT

GLOBAL SUMMARY: This minor association occurs in riparian and non-riparian sites in western Colorado, northeastern Utah and southwestern Idaho. Stands are reported from stream and river bottoms and terraces, and upland in mesic swales and on hillslopes below seeps and springs. Along large rivers in canyons stands often form linear bands on rocky, well-drained benches and toeslopes where it is often confined between the high water mark of a river and adjacent cliff faces and has access to the high water table. In broad river bottoms, stands occur in the floodplain on second terraces between older *Populus* spp. forests on upper terraces and *Salix exigua* shrublands next to the river. In these large floodplains, habitats are in flux with stream meanders, channel downcutting, and sediment deposition; sites where this shrubland persists are generally too dry for the establishment of *Populus* and *Salix* spp. Substrates are variable and range from shallow loamy sand to silt loam or over coarse alluvium, boulders or bedrock, to fine silty clays with the depth to groundwater between 2-4 m. The vegetation is characterized by a dense short-shrub layer dominated by 30-90% cover of *Rhus trilobata*. The tall shrub *Salix exigua* is typically present to codominant. Other associated shrubs include *Ericameria nauseosa, Ribes aureum , Salix lutea, Shepherdia argentea, Toxicodendron radicans*, and occasional sapling trees of *Populus fremontii, Populus angustifolia*, or *Salix amygdaloides*. The herbaceous layer is relatively sparse (<20% cover) and is composed primarily of graminoids such as *Elymus canadensis, Leymus cinereus (= Elymus cinereus), Equisetum* spp., *Hordeum jubatum, Muhlenbergia asperifolia, Pascopyrum smithii*, or *Phragmites australis*. Forb associates include *Apocynum cannabinum* and *Artemisia ludoviciana*. Exotic species are common in disturbed sites.

ENVIRONMENTAL DESCRIPTION

USFWS WETLAND SYSTEM: PALUSTRINE

Ouray National Wildlife Refuge Environment: Stands of *Rhus trilobata* Temporarily Flooded Shrubland have become established at the mid-elevation of the Green River floodplain and persist on these sites that are too dry for establishment of Fremont cottonwood, peachleaf willow, and coyote willow. Skunkbrush stands form on sediment bars that elevate over time by deposition or by down-cutting and moving of the river channel. The soils are fine, silty clays, and depth to ground water is probably between 2-4 m.

Global Environment: This minor association occurs in riparian and non-riparian sites in western Colorado, northeastern Utah and southwestern Idaho. Elevation ranges from 940-2000 m. These small shrublands are reported from stream and river bottoms and terraces, and upland in mesic swales and on hillslopes below seeps and springs. Along the Yampa, San Miguel, and Dolores rivers stands often form linear bands on rocky, well-drained benches and toeslopes where it is often confined between the high water mark of a river and adjacent cliff faces and has access to the high water table. Along the Green River stands occur in the floodplain on second terraces between older *Populus fremontii* forests on upper terraces and *Salix exigua* shrublands next to the river. In large floodplains, habitats are in flux with stream meanders, channel downcutting, and sediment deposition; sites where this shrubland persists are generally too dry for the establishment of *Populus* and *Salix* spp. Substrates are variable and range from shallow loamy sand to silt loam or over coarse alluvium, boulders or bedrock, to fine silty clays with the depth to groundwater between 2-4 m. Adjacent riparian vegetation includes communities dominated by *Schoenoplectus* spp., *Typha* spp., *Phragmites australis, Salix exigua, Alnus incana, Betula occidentalis, Populus angustifolia*, and *Populus fremontii*.

VEGETATION DESCRIPTION

Ouray National Wildlife Refuge Vegetation: *Rhus trilobata* is the dominant shrub in all stands, with individual shrubs exceeding 10 m in crown diameter and up to 5 m in height. They persist both in open sites on second terraces of the Green River floodplain and as understory shrubs to Fremont cottonwood forest and woodland stands. Foliar cover for *Rhus trilobata* ranges from approximately 40% to as much as 90% depending on shrub density within a stand and stand age. Some foliar cover within a skunkbrush stand is usually supplied by shrubs, including coyote willow, silver buffaloberry, and rabbitbrush, and sapling trees, including Fremont cottonwood, peachleaf willow, and Russian-olive. One stand sampled near Woods Bottom was evenly mixed with *Tamarix ramosissima,* both shrubs were present

at approximately 40% foliar cover each. Salt-cedar is invading almost all of the riparian stands/vegetation types present along the Green River. *Iva axillaris* is the common native herbaceous species within all stands of skunkbrush, and *Lepidium latifolium* is the common exotic species. Herbaceous species contribute approximately 10-15% foliar cover as part of this plant association. Grass species associated with *Rhus trilobata* shrubs include *Hordeum jubatum, Muhlenbergia asperifolia, Agropyron intermedium,* and *Elymus canadensis*. In addition to those listed above, forb species identified growing near skunkbrush include, *Apocynum cannabinum, Helianthus annuus, Conyza canadensis,* and *Artemisia ludoviciana*.

Global Vegetation: This plant association is characterized by a dense short-shrub layer dominated by 30-90% cover of *Rhus trilobata* sometimes forming near monocultures. However, the tall shrub *Salix exigua* is typically present to codominant. Other associated shrubs include *Ericameria nauseosa, Ribes aureum, Salix lutea, Shepherdia argentea, Toxicodendron radicans*, and occasional sapling trees of *Populus fremontii, Populus angustifolia*, or *Salix amygdaloides*. In cooler, mesic sites *Cornus sericea, Salix ligulifolia (= Salix eriocephala var. ligulifolia), Berberis fendleri, Rosa woodsii*, and *Clematis ligusticifolia* may be present to abundant. The herbaceous layer is relatively sparse (<20% cover) and is composed primarily of graminoids such as *Elymus canadensis, Leymus cinereus (= Elymus cinereus), Equisetum* spp., *Hordeum jubatum, Muhlenbergia asperifolia, Pascopyrum smithii,* or *Phragmites australis*. Forb associates include *Apocynum cannabinum* and *Artemisia ludoviciana*. Exotic species are common in disturbed stands and may include *Elaeagnus angustifolia, Tamarix ramosissima, Lepidium latifolium, Cirsium arvense, Thinopyrum intermedium, Poa pratensis, Agropyron cristatum, Melilotus officinalis*, and *Helianthus annuus*.

Dynamics: This shrubland association is considered late-seral by both Kittel et al. (1999) and Hall and Hansen (1997).

MOST ABUNDANT SPECIES

Ouray National Wildlife Refuge

Stratum	**Species**
TALL SHRUB	*Rhus trilobata*
HERBACEOUS	*Lepidium latifolium, Iva axillaris, Hordeum jubatum*

Global

Stratum	**Species**
TALL SHRUB	*Salix exigua*
SHORT SHRUB	*Rhus trilobata*

CHARACTERISTIC SPECIES

Ouray National Wildlife Refuge

Species

Rhus trilobata, Salix exigua, Lepidium latifolium, Iva axillaris

Global

Species

Rhus trilobata, Salix exigua

OTHER NOTEWORTHY SPECIES

Ouray National Wildlife Refuge

Stratum	**Species**
N/A	

Global

Stratum	**Species**
TALL SHRUB	*Tamarix ramosissima*
FORB	*Lepidium latifolium*

OURAY NATIONAL WILDLIFE REFUGE SIMILAR ASSOCIATIONS

Shepherdia argentea Temporarily Flooded Shrubland grows adjacent to and intermingles with this type.

GLOBAL SIMILAR ASSOCIATIONS:
Rhus trilobata - Prunus serotina Shrubland (CEGL001119)--This association is described from riparian habitats in southwestern New Mexico.

SYNONYMY:
Skunkbrush plant association (Kittel and Lederer 1993)
Rhus trilobata - *Salix exigua* Shrubland (Kittel et al. 1999)
Rhus trilobata Community Type (Hall and Hansen 1997)

CLASSIFICATION COMMENTS

Ouray National Wildlife Refuge: Most other *Rhus trilobata* shrublands sampled are more northerly distributed and are associated with relatively dry, upland grass/grass-like species, including; *Carex filifolia, Festuca idahoensis, Pseudoroegneria spicata,* and *Schizachyrium scoparium*.

Global Comments: This association occurs in both riparian and mesic upland environmental settings (Jankovsky-Jones 2000, Hall and Hansen 1997). Shrub cover is often so dense that there are few consistent understory indicator species to distinguish two associations. In addition, many riparian communities are impacted by the introduced species *Tamarix ramosissima*. Stands are considered a poor condition example of the natural type until strongly dominated by the introduced species. More survey and classification work are needed to refine the concept of this association.

ELEMENT DISTRIBUTION

Ouray National Wildlife Refuge Range: *Rhus trilobata* Temporarily Flooded Shrubland grows within the floodplain of the Green River. This association is typically found on second terraces between stands of Fremont cottonwood (upper second or third terrace) and coyote willow (first terrace or lower second terrace). Skunkbrush shrubland is also present as understory to Fremont cottonwood forest and woodland types, in addition it grows adjacent to silver buffaloberry stands on the river banks. The most well-developed stands occupy Sheppard Bottom and Wyasket Bottom.

Global Range: This minor shrubland association is known from the Yampa, Gunnison, San Miguel and Dolores river basins of the western slope of Colorado, and along the Green River in northeastern Utah.

Nations: US
States/Provinces: CO ID UT
TNC Ecoregions: 10:C, 19:C, 20:C
USFS Ecoregions: 341B:CC, 341C:CC, M331:C
Federal Lands: USFWS (Ouray)

ELEMENT SOURCES

Identifier: CEGL001121 **Confidence:** 3 **Conservation Rank:** G2
REFERENCES: Hall and Hansen 1997, Jankovsky-Jones 2000, Kittel and Lederer 1993, Kittel et al. 1999, Von Loh 2000.